

A wrong turn for Initial Teacher Education?

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Abstract

In this article the authors present the results of a small-scale quantitative research project examining the assumption that there is a direct causal link between the classification of a student teacher's first degree and their ability to teach. Evidence presented in the article supports the hypothesis that the assumption is incorrect. There appears to be no correlation, relationship or link between the classification of a student teacher's first degree and their ability to teach. The article examines what appears to be driving current policy rhetoric in this area and questions the extent to which such rhetoric may lead to a misallocation of limited resources within Initial Teacher Education.

Keywords: Teaching; Initial Teacher Education; Subject Knowledge.

Introduction

Within Coalition policy on Initial Teacher Education (ITE) an epistemological assumption would appear to exist between the classification of a person's first degree and their ability to develop professionally as a teacher. The evidence for the existence of this epistemological assumption can be established via published evidence. *The importance of teaching* was published in November 2010 by the Department for Education (DfE 2010). After the Secretary of State for Education had offered his foreword to the report, which includes such statements as '... comprehensive plans... involving improving teacher quality' and '... a vision of the teacher as our society's most valuable asset', we begin to see evidence in policy documentation of the government's belief that raising standards of teaching can be achieved by merely raising the entry profiles of

first degree applicants. For example:

'All the evidence from different education systems around the world shows that the most important factor in determining how well children do is the quality of teachers and teaching. The best education systems in the world draw their teachers from among the top graduates...' (DfE 2010, p. 9)

'Continue to raise the quality of new entrants to the teaching profession, by: ceasing to provide Department for Education funding for initial teacher training for those graduates who do not have at least a 2:2 degree; expanding Teach First; offering financial incentives to attract more of the very best graduates in shortage subjects into teaching; and enabling more talented career changers to become teachers.' (DfE 2010, p. 9)

'The best education systems draw their teachers from the most academically able, and select them carefully...' (DfE 2010, p. 19)

'We want to continue to improve the quality of teachers and teaching, and to raise the profession's status. Part of the solution will be to recruit more of the most talented people to the profession. Top-performing countries consistently recruit their teachers from the top third of graduates. Some go further: South Korea recruits from the top five per cent and Finland from the top ten per cent of the cohort who graduate from their school system. Evidence also suggests that prior academic attainment makes the biggest difference when combined with a high level of overall literacy and numeracy, strong interpersonal and communication skills, a willingness to learn, and the motivation to teach.' (DfE 2010, p. 20)

Taken as a whole the above quotations provide evidence that there is a narrative within current government policy in England, which openly links the ability to teach in a causal relationship to prior academic attainment, measured, for example, as a first degree classification. With that assumption established, the authors wish to examine more closely this 'evidence'.

The 'evidence' for change

In *The importance of teaching*, the Secretary of State for Education, Michael Gove, quotes from reports associated with Barber & Mourshed (2007) and Auguste et al. (2010), which are known jointly as 'the McKinsey reports'. These sources are quoted seven times in the first 20 pages of the White Paper, and a great deal of the justification and 'evidence' for change appears to hang almost entirely on these documents. The most worrying problem in examining Barber & Mourshed (2007) and Auguste et al. (2010) is that they do not locate their findings within relevant academic literature; there is no bibliography, only nine incomplete references to other books and articles and only two to policy documents. There is, for example, no mention of the large, critical bodies of research on cascade training, or the transfer of training (Hayes 2000), or the psychology and sociology of teaching and learning (Palincsar 1998; Rafi 2010). Without locating their work in relevant literatures or exhibiting new or relevant evidence it is therefore difficult to assess the extent to which this can be considered 'evidence-based academic research'. The McKinsey reports have been heavily criticised as oversimplification. Coffiel (2012) in particular found them 'deficient' in ten respects. In addition, a short Google search reveals that the funding for the McKinsey reports can be linked to US governor Jack Markell who has political and business links to the US Department of Education. The McKinsey reports cannot therefore really be termed 'independent' reports. It is the opinion of the authors that they should be treated as political policy pamphlets.

The wrong turn?

There is, however, evidence, using degree result data, that teachers joining the profession are better qualified in terms of first degree result than at any time previously. Smithers & Robinson (2011), for example, put forward the statistics that there has been an increase in the percentage of trainee teachers with first-class and upper-second degrees (46% to 58%) entering the profession over a recent 14-year period. However, they also point out that this increase appears

to mirror the increased rate at which universities are awarding these classifications of degree (50% to 61%) over the same period. They state, 'teaching is holding its own against other graduate occupations', while also lamenting that teaching 'is not increasing its share of the good graduates' (p. i). Ignoring the statistics that teaching has been, and still is, attracting people with higher classifications in their first degree, the Coalition government has recently implemented bursaries for teacher shortage subjects linking them directly to first degree outcome: £20,000 for a first, £15,000 for a 2:1 and £12,000 for a 2:2 (DfE 2011a). This implementation would appear to incentivise change that is already happening. However, this incentive scheme also appears to explicitly demonstrate a belief that students with higher class degrees will make better teachers.

In addition to this incentive scheme, we have seen a prioritising of students into Teach First ahead of those on Postgraduate Certificate in Education (PGCE) courses, in terms of both funding and course provision, since May 2010 (DfE 2011a, b). This process pushes what may be termed an 'elite' agenda based on higher degree classification taking precedence over other teacher education requirements. It is worth noting one or two inconsistencies within this policy agenda. One early change to ITE under the Coalition was to stop the public financing of any PGCE candidate with less than a 2:2 degree, effectively stopping anyone gaining Qualified Teacher Status with a third-class degree (DfE 2011a). This has had a significant impact on teacher recruitment in shortage subjects (Howson 2012, p. 41). A further inconsistency concerns the hiring of teaching staff without Qualified Teacher Status in both academies and free schools. On the opening day of the Olympics in the summer of 2012, academies and free schools gained the ability to employ anyone as a teacher. This decision is hard to understand when taken against previous rhetoric and policy aims. In Local Authority-controlled schools, only people with a 2:2 degree and above can now be employed via the PGCE route, but in academies and free schools anyone with *any* level of qualification can be employed.

Research question and methodology

The research question asked by this study is: to what extent is there a link between the classification of a student teacher's first degree result and the classification of their PGCE outcome for ITE students in one particular higher education institution (HEI)? The study involved quantitative analysis of student entry and exit data for a single cohort of Secondary PGCE students. Initially, the whole cohort was

analysed using simple data correlation methods. This analysis was then refined to look at the group of PGCE mathematics students. The analysis was also extended by taking stratified samples of the whole PGCE cohort. In addition, a stratified sample of the PGCE students preparing to teach mathematics was analysed in order to address possible relationships within shortage subjects. Descriptive statistics were used throughout the research. The data used for simple correlations involved assigning numerical values representing the degree classification and the 'summative' exit grades on completion of the PGCE for each student in the cohort. Degree classifications were reclassified as the following number values:

| Degree class | Ordering number |
|--------------|-----------------|
| First | 1 |
| 2:1 | 2 |
| 2:2 | 3 |
| Third | 4 |
| Pass degree | 5 |

Table 1: Degree classifications

The 'summative' exit grades used were the internal PGCE course exit grades aggregated from assignment and school experience/teaching placements. These are on a scale (see tables 2–5) of E1–E4, E1 being the highest, in terms of completion grades, and E4 representing 'unsatisfactory', which equates to PGCE fail. In this study, only trainees who successfully completed the PGCE course (E1, E2 and E3) were included. The authors feel that the E1–E4 grades are no more, and no less, subjective than degree classifications. In terms of this particular research, they are considered to be equally valid and equally reliable.

Findings

Pearson product moment correlation coefficients between degree class and exit grade for both the full cohort and the mathematics sub-cohort were undertaken (Upton & Cook 1996, pp. 546–8). Scatter diagrams showed that the data was spread widely both for all PGCE subjects and for mathematics as an individual subject. In all cases, the correlations were close to 0, indicating no real linear correlation: for the full cohort the coefficient was -0.04 , while for the mathematics sub-cohort it was $+0.1$. The data was then sorted into two-way tables (for both the full cohort and the mathematics sub-cohort), showing the

breakdown of each exit class (E1, E2, E3) for each degree class.

| | E1 | E2 | E3 | |
|------|----|-----|----|-----|
| 1 | 5 | 7 | 5 | 17 |
| 2.1 | 18 | 36 | 15 | 69 |
| 2.2 | 16 | 38 | 16 | 70 |
| 3 | 0 | 9 | 4 | 13 |
| Pass | 5 | 11 | 1 | 17 |
| | 44 | 101 | 41 | 186 |

Table 2: Two-way table – full cohort, raw data

| | E1 | E2 | E3 | |
|------|----|----|----|----|
| 1 | 2 | 1 | 3 | 6 |
| 2.1 | 3 | 7 | 2 | 12 |
| 2.2 | 1 | 9 | 2 | 12 |
| 3 | 0 | 2 | 2 | 4 |
| Pass | 0 | 2 | 1 | 3 |
| | 6 | 21 | 10 | 37 |

Table 3: Two-way table – mathematics sub-cohort, raw data

Tables 1 and 2 suggest no link between teacher quality and degree classification. In addition, this view is supported by Tables 3 and 4. The latter look at the measure of spread of the data, considering the mean and standard deviation (SD) of both groups. Effectively all students leave with a mean grade of E2 regardless of their initial degree classification, implying that degree classification is not a factor in the award of E1, E2 or E3.

| Degree class | Mean exit grade | SD |
|--------------|-----------------|------|
| 1 | 2 | 0.79 |
| 2.1 | 1.96 | 0.70 |
| 2.2 | 2 | 0.68 |
| 3 | 2.31 | 0.48 |
| Pass | 1.76 | 0.56 |

Table 4: Mean exit grade for full PGCE cohort (n=186)

| Degree class | Mean exit grade | SD |
|--------------|-----------------|------|
| 1 | 2.17 | 0.98 |
| 2.1 | 1.92 | 0.67 |
| 2.2 | 2.15 | 0.55 |
| 3 | 2.5 | 0.58 |
| Pass | 2.33 | 0.58 |

Table 5: Mean exit grade for Mathematics PGCE cohort (n=37)

For the whole cohort the Pearson product moment correlation coefficient of the original data linking degree result (1, 2, 3, 4 and 5) to exit grade (1, 2 and 3) was, as previously stated, effectively zero. The authors concluded that there was no evidence of any relationship between the two variables. It was noted that approximately one-third of the trainees held degrees that did not match the subject area for which they would be teaching (eg someone with a psychology degree teaching mathematics). The authors changed the degree result data on these trainees to read a 4 and this resulted in a product moment correlation coefficient of -0.072 . The authors continued to conclude that there was no evidence of any relationship between the two variables.

It was also noted that the numbers of trainees holding first, 2:1, 2:2, third and pass categories were not equal. This could theoretically have an effect on the product moment correlation coefficient. The smallest grouping in any one category was 13. The authors randomly selected groups of size 13 from each of the other four categories to form evenly sized categories, by size, resulting in a stratified sample from the original 186 students of $n=5 \times 13=65$. This process of random selection was repeated ten times. The Pearson product moment correlation coefficient on most of these occasions was close to zero but did go as large as $+0.245$ and as small as -0.320 . The authors concluded that varying numbers in each category to produce various stratified samples did cause a variation in the value of the Pearson product moment correlation coefficient; there was still no evidence, however, of any relationship between the two variables.

Limitations of the authors' study

Our study was undertaken in just one ITE provider; we

cannot state with any degree of certainty that these results are universal across all providers. The research is theoretically underpinned by elementary statistical work. We are aware that any study that rationalises the attributes of a potential teacher to a single pair of discrete numbers can be considered naïve. We are also aware of the many disadvantages of using discrete scales to quantify human attributes and the problems of treating ordinal scaled data as a continuous ratio scale for the purposes of doing any statistical analysis. However, to paraphrase Rorty (1994, p. 59), we are attempting to obey 'the normal conventions of [our] discipline', while 'not fudging the data too much' but also 'not blocking the road to enquiry'. In other words, we know that our statistical work is not entirely robust, but we continue to analyse it pragmatically.

Conclusion

We would like to make it clear that we are not saying that secondary subject teachers do not need good 'subject knowledge' or that teachers should not be 'good' at their subject. We are stating that for teachers, who are graduates, our evidence supports the hypothesis that, for one ITE provider, there appears to be no link between the classification of a student teacher's first degree result and the classification of their PGCE outcome. The policy implications of this conclusion, along with other work (Clarke & Pye 2012), are enormous. Money spent on attracting graduates with higher degree classifications into ITE is potentially being wasted if the aim is to raise 'teacher quality'. If the aim isn't to increase 'teacher quality' this other aim should be explicitly stated. The money now being spent on these various schemes could be more usefully directed towards a 'teacher quality' agenda if it were spent on improving ITE in general, or providing more ITE in total, rather than merely attracting higher-qualified ITE students into ITE.

In addition, the policy implications referred to in this conclusion may also impact negatively on the diversity of entrants into the teaching profession, as statistically some groups of students achieve lower degree results, on average, than others. Recent figures released by the Equality Challenge Unit, quoted by Renaud-Komiya (2012), show that 69.5% of UK-domiciled white students achieved a first or 2:1 degree in 2010/11, compared with 51.1% of black and minority ethnic (BME) students and 40.3% of black students. The gaps in performance between different ethnic groups taken alongside recent attempts to decrease the number of teachers entering the profession with

2:2 or below may well be creating a barrier to entry into the teaching profession for some ethnic groups.

We believe that our results may also have implications for publications such as: *The good teacher training guide* which is published annually by the University of Buckingham (Smithers et al. 2012). This publication relies heavily on degree entry data to nationally rank ITE providers. It uses this data alongside Ofsted reports and the trainees' take-up of teaching posts, both of which appear to be a function of degree entry data. If degree classification has no direct link to teaching outcomes, one must ask why it would be used to rank ITE providers and the content of a course. Entry qualification data may accurately reflect competition for places onto individual HEI courses; but the data may not be considered an appropriate measure of the 'quality' of the teacher education on the individual courses as the guide indicates.

It is hoped that these research findings help shed light on naïve ideas of raising 'teaching standards' by merely recruiting so-called better-qualified graduates. It is hoped that they may encourage other ITE providers to examine their own data and add to the weight of evidence against simple solutions for complex situations. It is also hoped that these research findings may impact on Government policies; helping form a more nuanced and sophisticated conversation concerning improvements to the teaching profession.

References

- Auguste, B., Kihn, P. & Miller, M. (2010). *Closing the talent gap: attracting and retaining top-third graduates to careers in teaching – an international and market research-based perspective*. London: McKinsey and Company.
- Barber, M. & Mourshed, M. (2007). *How the world's best-performing school systems come out on top*. London: McKinsey and Company.
- Coffiel, F. (2012). 'Why the McKinsey reports will not improve school systems'. *Journal of Educational Policy*, 27(1), 131–49.
- Clarke, J. & Pye, T. (2012). 'Right turn for Gove; wrong turn for Initial Teacher Education'. Online: <http://www.leeds.ac.uk/educol/documents/212123.pdf> [accessed November 2012].
- Department for Education (DfE) (2010). *The importance of teaching*. London: The Stationery Office.
- DfE (2011a). 'Teaching our next generation of outstanding teachers – implementation plan'. Online: <http://www.education.gov.uk/publications/DfE-00038-2011> [accessed 10 July 2012].
- DfE. (2011b). Press notice 14-7-11. Online: <http://www.education.gov.uk/inthenews/a00210309> [accessed 14 July 2011].
- Hayes, D. (2000). 'Cascade training and teachers' professional development'. *ELT Journal*, 54(2), 135–45.
- Howson, J. (2012). *The future teacher workforce: quality and quantity*. London: Pearson.
- Palincsar, A.S. (1998). 'Social constructivist perspectives on teaching and learning'. *Annual Review of Psychology*, 49(1), 345–75.
- Rafi, M. (2010). 'Evaluating training cascade: a methodology and case study'. *Educational Research and Reviews*, 5(2), 64–77.
- Renaud-Komiya, N. (2012). 'Mind, don't dismiss, the BME attainment gap'. *Times Higher Education*, No. 2077, pp. 22–8. Online: <http://www.timeshighereducation.co.uk/story.asp?sectioncode=26&storycode=421914&c=1> [accessed November 2012].
- Rorty, R. (1994). 'Method, social science and social hope'. In Seidman, S. (ed.), *The postmodern turn: new perspectives on social theory*. Cambridge: Cambridge University Press.
- Smithers, A. & Robinson, P. (2011). *The good teacher training guide 2011*. Buckingham: Centre for Education and Employment Research, University of Buckingham.
- Smithers, A., Robinson, P. & Coughlan, M.-D. (2012). *The good teacher training guide*. Buckingham: Centre for Education and Employment Research, University of Buckingham.
- Upton, G. & Cook, I. (1996). *Understanding statistics*. Oxford: Oxford University Press.

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